

THE AFROTROPICAL PACHYGASTRINE GENERA *ASHANTINA* KERTÉSZ  
AND *MERISTOMERINGINA* JAMES, WITH TWO NEW  
GENERIC SYNONYMS (DIPTERA: STRATIOMYIDAE)

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*Abstract.*—The two Afrotropical pachygastrine genera *Ashantina* Kertész and *Meristomerina* James are reviewed. Two new generic synonymies are proposed: *Neosolva* Séguy is a new junior synonym of *Ashantina* (based on type species synonymy, *N. dubia* Séguy is a new junior synonym of *Ashantina antennata* Kertész) and *Agnathomyia* Lindner is a new junior synonym of *Meristomerina*. Lectotypes are designated for *Ashantina antennata* Kertész and *Neosolva dubia* Séguy. A key to the six known species of *Meristomerina* is provided as well as illustrations of male genitalia of all species, four of which are new (country of type locality in parentheses): *M. aka* (Zaire), *M. cholo* (Malawi), *M. kontagora* (Nigeria), and *M. praestigator* (Uganda).

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The Pachygastrinae is a large subfamily of stratiomyid flies. Their extreme structural diversity has made them a difficult group to work with and has resulted in the description of a large number of genera, each with few included species. Of the 62 Afrotropical genera recognized by James (1980), 38 are monotypic, only seven have five or more included species, and only eight occur outside of the Afrotropical Region. The only recent key to genera from the region is that of Lindner (1966), which excludes those found only in Madagascar (15 genera), and nine other genera subsequently described or discovered from mainland Africa. Consequently, even generic determinations within the subfamily can be difficult to make.

The character states used to define the Pachygastrinae, loss of vein  $M_3$  beyond the discal cell and the abdomen composed of five major segments (i.e. those beyond five much reduced), are found in other stratiomyids. Thus the monophyly of the subfamily has not been adequately demonstrated. Based on their studies of female terminalia

of representative stratiomyid taxa, Nagatomi and Iwata (1978) noted that the "Clitellariinae and Pachygasterinae may be heterogeneous."

This paper reviews two genera included by James (1952) in the tribe Meristomerini, a tribe not maintained by him in subsequent publications. None of the seven character states mentioned by James (1952) is unique to the group. While the Afrotropical genera included in the tribe by James are quite similar in general appearance, the possible monophyly of this suprageneric grouping requires much further documentation. The two genera treated in this paper may be identified using Lindner's (1966) generic key. The male genitalia for all known species in both genera are illustrated, which should allow for detection of additional species if they exist.

**Genus *ASHANTINA* Kertész**

*Ashantina* Kertész, 1914: 539. Type species, *A. antennata* Kertész, by original designation.

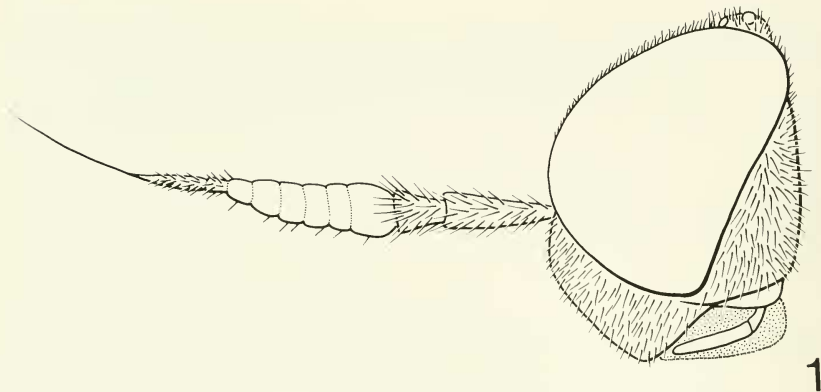


Fig. 1. *Ashantina antennata* Kertész, left lateral view of male head.

*Neosolva* Séguéy, 1953: 152. Type species, *N. dubia* Séguéy, by original designation. NEW SYNONYMY.

Diagnosis.—*Ashantina* is most easily recognized by the structure of its antenna (Fig. 1), in particular the eighth flagellomere, which is thick basally but quickly tapers to an arista-like apex. Only the basal portion of the eighth flagellomere is haired. Also, the rounded but protruding face, which extends well below the lower eye margin (Fig. 1), and which is squared when viewed anteriorly, is characteristic. Both of these character states are likely autapomorphic for the genus; I am aware of no other pachygastrines with similar features.

Other features exhibited by *Ashantina*, although found in other pachygastrines, are useful in characterizing the genus. They include the elongate antennal flagellum, the spineless scutellum, vein  $R_{2+3}$  arising well beyond crossvein r-m, and the elongate abdomen.

Remarks.—The synonymy of *Neosolva* with *Ashantina* has been confirmed by examination of type material for each of the included species. Séguéy's (1953) original description of *Neosolva* was brief, not particularly useful, and has made subsequent rec-

ognition of his taxon difficult. *Neosolva* was excluded from the Xylomyidae by Nagatomi and Tanaka (1971), who did not examine the types, but guessed that it might be a pachygastrine. James (1980: 274) treated *Neosolva* as an unplaced genus of Stratiomyidae.

*Ashantina* runs rather ambiguously through paragraph 19 of Lindner's generic key. It should probably be traced through the alternate, paragraph 14, as the last flagellomere is "bristle-form," with only the base thickened and haired.

#### *Ashantina antennata* Kertész

*Ashantina antennata* Kertész, 1914: 539.  
*Neosolva dubia* Séguéy, 1953: 152. NEW SYNONYMY.

Type material.—One female syntype of *A. antennata*, hereby designated as the lectotype, still exists in the British Museum (Natural History), London. The other syntypes, which were in the Hungarian Natural History Museum, were destroyed in 1956. The lectotype female is labeled: "Caught on leaf./Dunkwa, Ashanti, W. Africa. 2.VII.1907. Dr. W. M. Graham. 1908-245./*Ashantina* ♀! *antennata* Kert det. Kertész/LECTOTYPE *Ashantina antennata* Ker-

tész, 1914: 539 des. N. E. Woodley 1981." The specimen is in reasonably good condition but is missing the left antennal flagellum, the entire right antenna, the last two tarsomeres of the left foreleg, and the right hindleg beyond the trochanter.

Four syntypes of *N. dubia* Ségué are present in the Muséum national d'Histoire naturelle, Paris. I have examined one of these, a female, that is hereby designated as the lectotype. It is labeled: "Thio/MUSEUM PARIS Nimba (Guinée) M. Lamotte II.VI.42/Neosolva dubia Typ. Seguy ♀/LECTOTYPE Neosolva dubia Ségué, 1953: 152 des. N. E. Woodley 1981/Ashantina antennata Kertész, 1914: 539 Det. N. E. Woodley 1981." The lectotype is in excellent condition, lacking only the last four tarsomeres of the left hindleg.

Diagnosis.—As *Ashantina* is monotypic, *A. antennata* may be recognized by the generic characters discussed above. Figs. 2, 4, and 5 illustrate the male terminalia, which should allow determination of this species with certainty and allow detection of further undescribed species if they exist.

Distribution.—James (1980) states that *A. antennata* is found from Liberia to Zaïre. Its distribution is shown in Fig. 6.

Material examined.—CAMEROUN: 1 ♀, Dept. Nyong-Sanaga, Nkolbisson, September 1963, L. G. Segers (MRAC); 2 ♂, Yaounde, 2600 ft., 29–30 May 1936, Van Zwaluwenberg & McGough (USNM). CENTRAL AFRICAN REPUBLIC: 10 ♂, 3 ♀, Dept. Lombezi, La Maboque, sur *Whitfieldia longifolia*, 31 August and 4 October 1970, L. Matile (MNHN). GHANA: 1 ♀ (lectotype) Ashanti, Dunkwa, caught on leaf, 2 July 1907, W. M. Graham (BMNH). GUINEA: (1 ♀ (lectotype of *N. dubia*), Nimba [Mountains], Thio, February–April 1942, M. Lamotte (MNHN). LIBERIA: 4 ♂, 1 ♀, Robertsport, Bendu, 26 February to 1 April 1943, F. M. Snyder (AMNH). NIGERIA: 1 ♂, Ile-Ife, 20 June 1970, J. T. Medler (CNC); 3 ♂, 4 ♀, Ile-Ife, 26 January 1975 and 16 March 1975, J. T. Medler (USNM).

ZAIRE: 6 ♂, Luebo, 27 April 1958, F. J. Françoise (IRNSB); 1 ♂, 1 ♀, Mbanza-Ngungu [as Thysville], 15°0'E, 5°30'S (AMNH); 1 ♂, Parc National Albert, W. Ruwenzori (1200–1500 m), March 1937, Hackars (MRAC); 1 ♂, Parc National Albert, Kivu, Rutshuru (riv. Rutshuru) 1000 m, 3 July 1935, G. F. de Witte (MRAC).

Remarks.—*Ashantina antennata* is a distinctive Afrotropical species and is fairly common in collections. Lindner (1938, 1955, 1966, 1970) gives numerous records. The sexes are quite similar in habitus. The frons and face in females are slightly wider than in males. Females are generally somewhat darker in coloration, which is especially noticeable on the thoracic pleura and dorsum of the abdomen. The species is quite variable in size; specimens examined range from 5.5 to 9.0 mm in length.

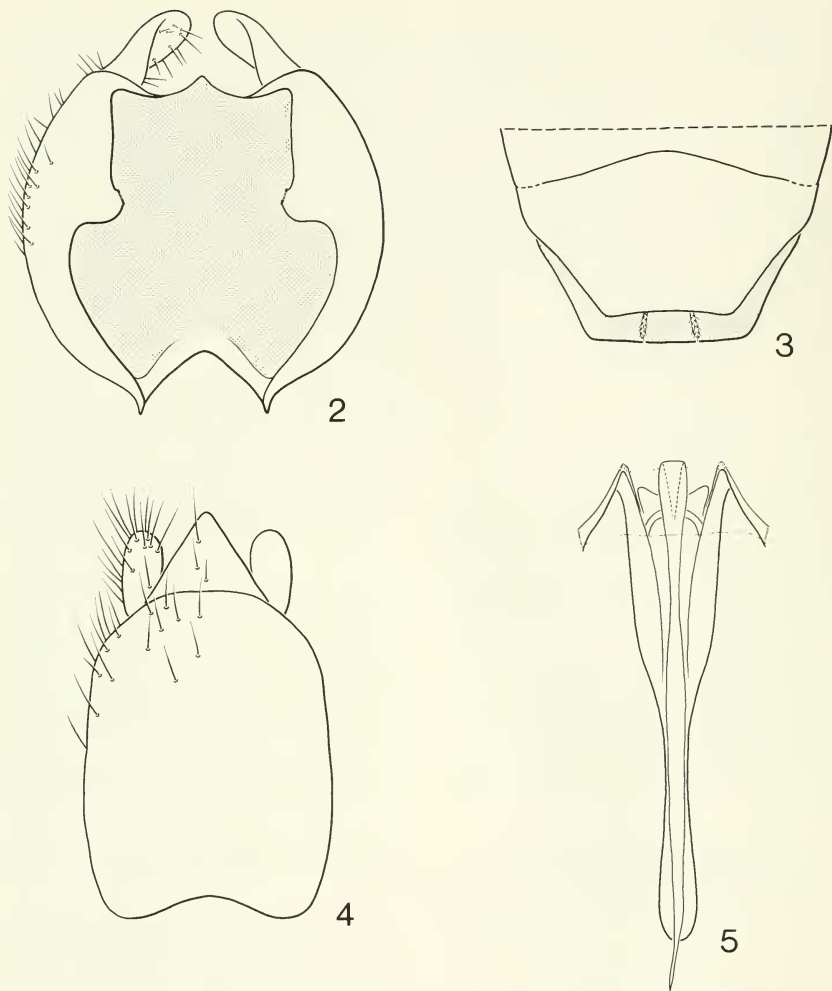
The end of the abdomen in both sexes is unusual as the fifth tergite is shorter and narrower than the sternite, and it is apparently movable and capable of closing the end of the abdomen (Fig. 3). The aedeagal complex is complicated in structure and is somewhat simplified in my illustration (Fig. 5). In profile it is nearly straight, and is not illustrated in this view because it was difficult to delimit structures which were obscured by membrane. The homologies are difficult to determine, but the aedeagus is apparently strongly fused to the aedeagal valves (the lateral processes in the normal tritid aedeagal complex of stratiomyids).

### Genus *MERISTOMERINGINA* James

*Meristomerina* James, 1952: 38. Type species, *M. mimetes* James, by original designation.

*Agnathomyia* Lindner, 1958: 124. Type species, *A. combinata* Lindner, by monotypy. NEW SYNONYMY.

Diagnosis.—*Meristomerina* is the only genus of Afrotropical Pachygastrinae that has a combination of a simple antennal flagellum and a scutellum with two spines. The



Figs. 2-5. Features of *Ashantina antennata* Kertész. 2, Male genital capsule, dorsal view. 3, End of female abdomen, dorsal view. 4, Male epandrium and post-genital segments, dorsal view. 5, Male aedeagal complex, dorsal view.

only other genus on mainland Africa with two scutellar spines is *Goetghebueroomyia* Lindner, but this genus has the last antennal flagellomere aristate and has a much differ-

ent habitus. Several pachygastrines from Madagascar also have two scutellar spines but are also very different in general form.

Remarks.—*Meristomeringina* is difficult

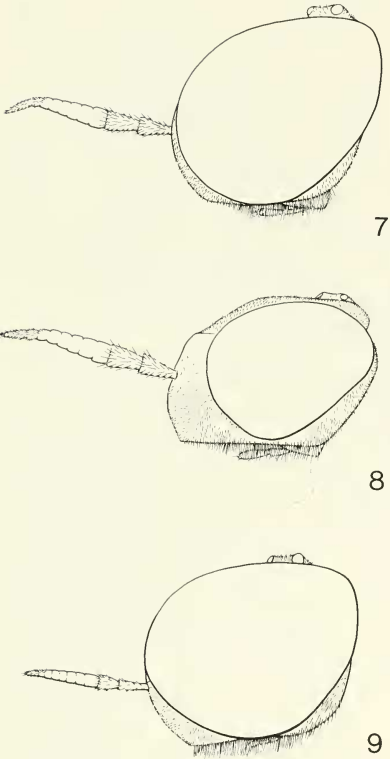


Fig. 6. Distribution of *Ashantina antennata* Kertész.

to define with a conclusively autapomorphic character state. The shape of the antennal flagellum is characteristic but is of the more general, plesiomorphic form, i.e. without any fusion of flagellomeres or modification of the terminal ones to form a style or arista (Figs. 7–9). The antennae of the pachygastrines are so variable in structure that character polarities are difficult to determine in many cases. Presence of scutellar spines is also plesiomorphic within the subfamily, although the character state of having only two is rare in pachygastrines. The aedeagal

complex is similar in all species included in the genus, and the presence of toothlike processes on the aedeagal valves may be autapomorphic for the genus.

The six species now known of *Meristomerina* are extremely similar in morphology. Several species from central Africa can be identified with certainty only by examining the male genitalia. Females are virtually identical, and the descriptions are based on specimens associated with males that have identical collecting data. The female genitalia are not distinctly different.



Figs. 7-9. Left lateral views of heads of *Meristomerina*. 7, Male of *M. mimetes* James. 8, Female of *M. mimetes* James. 9, Male holotype of *M. combinata* (Lindner).

The differences in structure of the female furca that I have observed between specimens is slight, and none appear to be constant within and diagnostic between species. Further studies of females are needed based on additional material in series associated with males to assess variation and possible diagnostic characters.

Virtually nothing is known of the natural history of *Meristomerina*. They are perhaps crepuscular or nocturnal as both *M. mimetes* and *M. kontagora* have been col-

lected at light. Two females that are probably *M. mimetes* were collected on *Zea mays*. One unassociated female from Zaïre was collected on large leaves of shrubs in gallery forest along a river.

In the following portion of the paper, *M. mimetes* is redescribed completely, and treated first as it is the type species of the genus. For the five additional species, descriptions are based only on differences between the respective species and *M. mimetes*, because they are all so similar morphologically. It should be noted that all of the characters described for *M. mimetes* have been examined for each species.

KEY TO SPECIES OF *MERISTOMERINGINA*

1. White spot of anepisternum extending from dorsal, posterior corner at base of wing along notopleural suture, reaching anterior spiracle ..... 2
- White spot of anepisternum confined to dorsal, posterior corner ..... 5
2. Middle and hind femora with basal halves yellowish-white, apical halves brownish-black, the colors strongly contrasting; male gonostylus not strongly explanate ..... 3
- Middle and hind femora with basal thirds yellowish-white, apical two-thirds dark brownish-orange, the colors less strongly contrasting than in the three species keying out above; male gonostylus strongly explanate, more or less triangular in outline (Fig. 23) ..... *M. combinata* (Lindner)
3. Gonostylus of male genitalia with a long, slender, posteriorly directed digitate process; posterior margin of hypandrium notched medially, thus bilobed (Fig. 11) ... *M. mimetes* James
- Gonostylus of male genitalia without long digitate process, but with shorter, more dorsally directed process; posterior margin of hypandrium rounded, without medial notch (Figs. 17, 31) ..... 4
4. Male gonostylus with apical process simple, short and dorsally directed, sharp apically; posterodorsal corner of gonocoxites more truncate than in *M. aka* (Fig. 31) ..... *M. praestigiator*, new species
- Male gonostylus with apical process longer and recurved in a dorsal direction, the apex blunter, with several minute denticles; posterodorsal corner of gonocoxites narrower and more rounded than in *M. praestigiator* (Fig. 17) ... *M. aka*, new species



Fig. 10. Distribution of species of *Meristomerina*.

5. Second segment of palpus dark; all femora strongly bicolored, basal halves yellowish-white, apical halves brownish-black; hind tibia wholly brownish black; second tarsomeres of middle and hind legs blackish on at least apical halves; male gonostylus without posterior digitate process (Fig. 27) . . . *M. kontagora*, new species
- Entire palpus pale; all femora weakly bicolored, basal halves yellowish-white, apical halves brownish-orange; hind tibia brownish-orange with moderately distinct paler ring medially; second tarsomeres of middle and hind legs wholly yellow; male gonostylus with posterior digitate process (Fig. 20) . . . *M. cholo*, new species

### *Meristomerina mimetes* James

*Meristomerina mimetes* James, 1952: 38.

Type material.—The holotype male, in the collection of the California Academy of Sciences, San Francisco, is labeled: "Bertona Fr. Cameroons VII-10-49 B. Malkin/At light/*Meristomer-ingina mimetes* ♂ James HOLOTYPE." The specimen is in excellent condition, missing only the last three tarsomeres of the right front leg.

Diagnosis.—This species is extremely

similar to *M. praestigator* and *M. aka*, differing significantly only in structure of the male genitalia. The bilobed posterior margin of the hypandrium and the gonostylus bearing a long, digitate posterior process (Fig. 11) are features that will separate *M. mimetes* from these other two species. The process of the gonostylus is longer in *M. mimetes* than in any other species in the genus. Unassociated females cannot be reliably determined.

Description. — *Male*: Head (Fig. 7) blackish; eyes very large, hence frons very reduced; ocellar tubercle moderately prominent, ocelli large; face very slightly convex, receding, finely punctate; occiput concave; face with very narrow, whitish tomentose margins along eyes; pilosity of head evenly set, hairs white, short, more or less appressed, longer and more erect on lower facial margin and genae; eyes with extremely short, sparse pilosity, visible only at high magnification; antennae simple, 0.82 to 0.90 length of head, ratio of segments (for one paratype) 12:12:49[7:5:5:5:5:5:12], flagellum slightly tapering apically, first two segments and base of flagellum brownish, becoming nearly black distally, sometimes more yellowish-brown basally in some specimens; scape and pedicel with short, dark hairs, flagellum with velvety vestiture and short stubby hairs, most noticeable on last two flagellomeres; palpi small, with two subequal segments, pale whitish-yellow, with a few apical hairs; proboscis pale yellowish. Thorax black, pleura more brownish, post-pronotal lobes with outer halves yellowish, postalar calli brownish, scutellar spines whitish; anepisternum with creamy white spot on posterodorsal corner, becoming narrower and extending anteriorly along notopleural suture to anterior spiracle; prosternum brownish yellow; mesonotum moderately convex, densely but finely, granularly punctate; scutellum simple, moderately convex, punctate as mesonotum, the two separated by about their length; meron + katepimeron, laterotergite, and subscu-

tellum with whitish tomentum; most of thorax set with whitish, semi-appressed pilosity, coppery colored on mesonotum and middle of scutellum, bare anterodorsally on anepisternum, posterior half of anepimeron, entire meron + katepimeron, mediotergite, and subscutellum; legs yellowish-white, but entire front tarsi, distal halves of mid and hind femora, hind tibiae except for indistinct annulus just basad of middle (sometimes extending more extensively toward base), and apical halves of second tarsomeres and tarsomeres 3–5 of mid and hind legs brownish black; middle tibiae brownish, becoming paler apically; front femora gradually becoming orangish-yellow distally; and front tibiae entirely orangish-brown; pilosity of legs very short, mostly pale but with some dark hairs on darkly pigmented regions, with longer, more erect hairs present on posterior surfaces of middle and to a lesser extent the hind femora; halter pale yellowish, knob partly brownish; wings evenly infuscated with grayish-brown, slightly darker in vicinity of radial sector veins, paler near base of wing; wings evenly set with microtrichia except at extreme base. Abdomen nearly twice as long as wide, brownish-black, proctiger and cerci more yellowish; finely, granularly punctate; with short, appressed pilosity, mostly pale but some is dark medially on tergites, longest on first segment. Male genitalia large, gonocoxites (Fig. 11) rounded, posterodorsal region truncate, the internal corner with fine denticles near margin; posterior margin of hypandrium slightly produced with sharp, u-shaped medial notch rendering it distinctly bilobed; gonostyli strongly concave dorsally, with sharp anteromedial corner and long, slender, posteriorly directed digitate process that is gently bent dorsally and longer than the basal portion of the gonostylus; aedeagal complex (Figs. 12, 13) large, gently arcuate in profile, the three posterior lobes long and attenuated posteriorly, completely fused, with a few asymmetrically placed projecting teeth; attachment structure of ae-



deagal complex fairly large, simple, broadly attached to gonocoxal apodemes; epanthrium (Fig. 14) large, explanate, gradually tapered posteriorly to a truncate apex. Length, 6.9 to 7.5 mm.

*Female:* Differs from male as follows: Head (Fig. 8) with eyes smaller, dichoptic; frons 0.36 to 0.40 width of head, parallel sided above transverse sulcus, finely punctate except for a feebly developed medial carina extending from anterior ocellus to transverse sulcus, sometimes undeveloped anteriorly; transverse sulcus and surrounding area slightly depressed; lower frons and face wider, but similar in structure to male; vertex slightly produced posteriorly, margin rounded; postocular orbits rounded, widening ventrally; antennae 0.94 to 1.0 length of head, ratio of segments in one paratype 10:10:36[5:4:4:4:3:3:4:9]. Thorax with mesonotal pilosity usually wholly whitish, at most with slight golden cast on narrow, medial strip; halter entirely pale. Abdomen with pale pilosity more conspicuous along tergal sutures. Female genital furca extremely similar to the illustration for that of *M. aka* (see Fig. 16). Post-genital segments with cerci cylindrical, slender, second segment very slightly shorter than first. Length 7.5 to 7.9 mm.

*Distribution.*—Known from Cameroun, Nigeria, and Zaïre (Fig. 10).

*Material examined.*—CAMEROUN: 8 ♂, 2 ♀ (holotype, allotype, and 8 paratypes), Bertona, 10 July 1949, at light, B. Malkin (CAS, USNM, WSU); 1 ♂, Env. Douala (MNHN). NIGERIA: 1 ♂ (labeled as paratype), Ife Oyo Province, 19 March 1949, B. Malkin (WSU); 1 ♀, Zaria, Samaru, June 1979, J. C. Deeming (NEW); 1 ♂, 2 ♀, Samaru, 21–29 July 1970, P. H. Ward, mercury vapor light trap (BMNH). ZAIRE: 1 ♂, 1 ♀ Haut-Uélé, Mauda, March 1925, H. Schouteden (MRAC).

Two females with data NIGERIA: U. C. Ibadan, 1–2 August 1956, G. H. Caswell, *Zea mays* (BMNH) are almost certainly *M. mimetes*, but males are not known from this

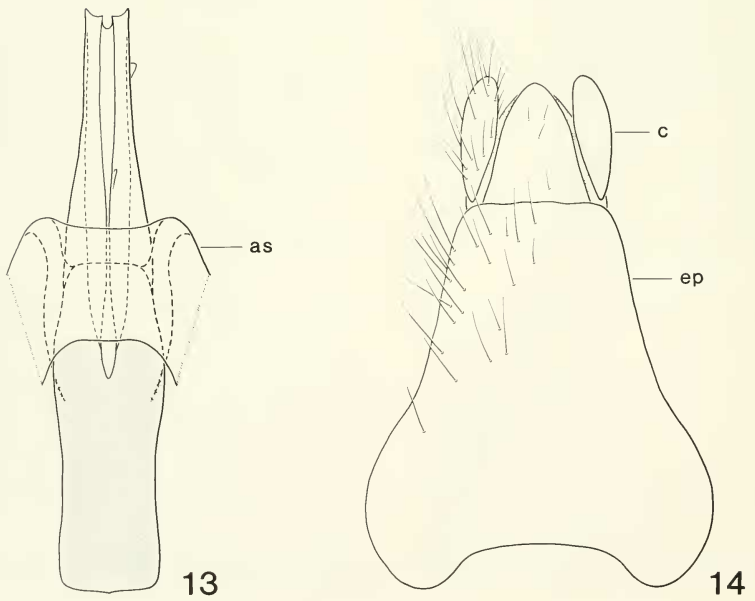
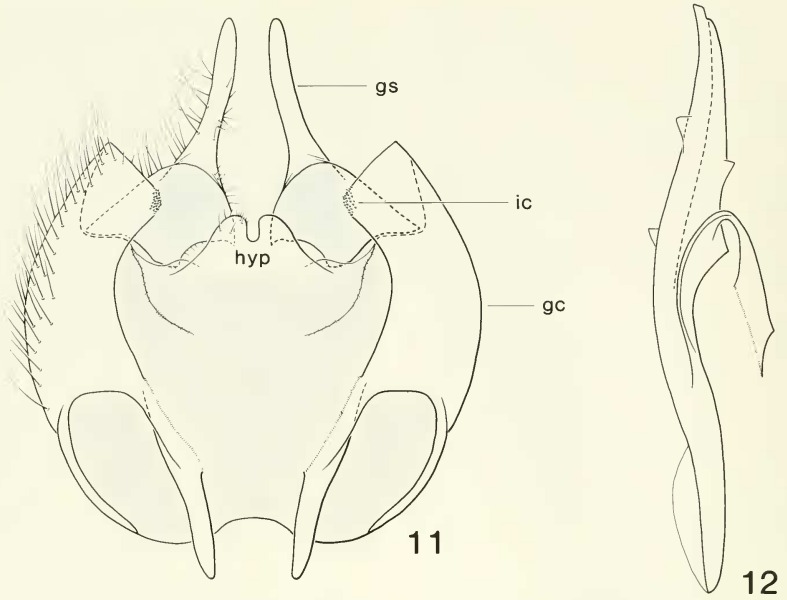
locality. Three additional unassociated females seem most likely to be this species, but their identity is also uncertain: ZAIRE: Mayidi, 1945, P. Van Eyen (MRAC); Elisabethville, January 1956–January 1957, Ch. Seydel, “à la lumière” (MRAC); Elisabethville, M. Bequaert, 29 November 1933, “dans galerie forestiere de la riv. Kimilolo courant sur large feuille d’arbuste” (WSU). The first two of these were reported by Lindner (1966) as *M. mimetes*.

*Remarks.*—The type locality for this species was spelled “Bertona” on the labels and in James’ paper, but it probably refers to Bertoua, Cameroun, as I have not been able to find any locality with the former spelling. The male from Ife Oyo Province, Nigeria was labeled as a paratype by James but not cited in the original publication. As the label is handwritten and looks very similar to the Bertona, Cameroun labels, I assume this was an oversight by James and the specimen was in the original type series.

James (1952: 39) figured the male genitalia, but his drawing is crude, as it was apparently drawn *in situ* without clearing. The male genitalia of *M. mimetes* have gonostyli that are very similar to those found in *M. cholo*, differing mainly in the length of the digitate process which is shorter in the latter species. This structural similarity may be synapomorphic indicating a sister-species relationship between these two species. The gonostyli of *M. kontagora* have the same general form, but lack a posterior process. It is not clear if this is a derived loss or a more plesiomorphic character state.

A small amount of color variation on the legs has been observed, especially on the hind tibiae. Pale color is usually restricted to a vague, narrow annulus near the middle of the tibia, but sometimes is more extensive basally. Aside from slight size variation, the species is quite uniform in appearance.

The females of *M. mimetes* and *M. aka*, and presumably females of *M. praestigiator* (presently unknown), are virtually identical.



They cannot be identified reliably unless associated with males. Although there is considerable overlap in size, *M. mimetes* has a general appearance slightly larger and more robust than *M. aka*. Also, the anterior extension of the white spot on the anepisternum along the notopleural suture is usually slightly wider in *M. mimetes* than in *M. aka*. It is not known, however, if these subtle differences will remain distinct when more adequate series of each species are at hand.

*Meristomerina aka* Woodley,  
NEW SPECIES

Type material.—The holotype male, housed at the Institut Royal de Sciences Naturelle de Belgique, Brussels, is labeled: "Congo Belge, P.N.G. Miss. H. De Saeger Aka/2, 22-v-1952 H. De Saeger. 3514/Meristomerina mimetes Lindner det Jam/HOLOTYPE ♂ Meristomerina aka N. E. Woodley 1986." The apical half of the left scutellar spine is missing, otherwise the specimen is in excellent condition. The abdomen beyond the fifth segment is preserved in glycerin in a microvial on the specimen pin. An allotype female, 10 male and 1 female paratypes are designated, data being summarized in the material examined section below.

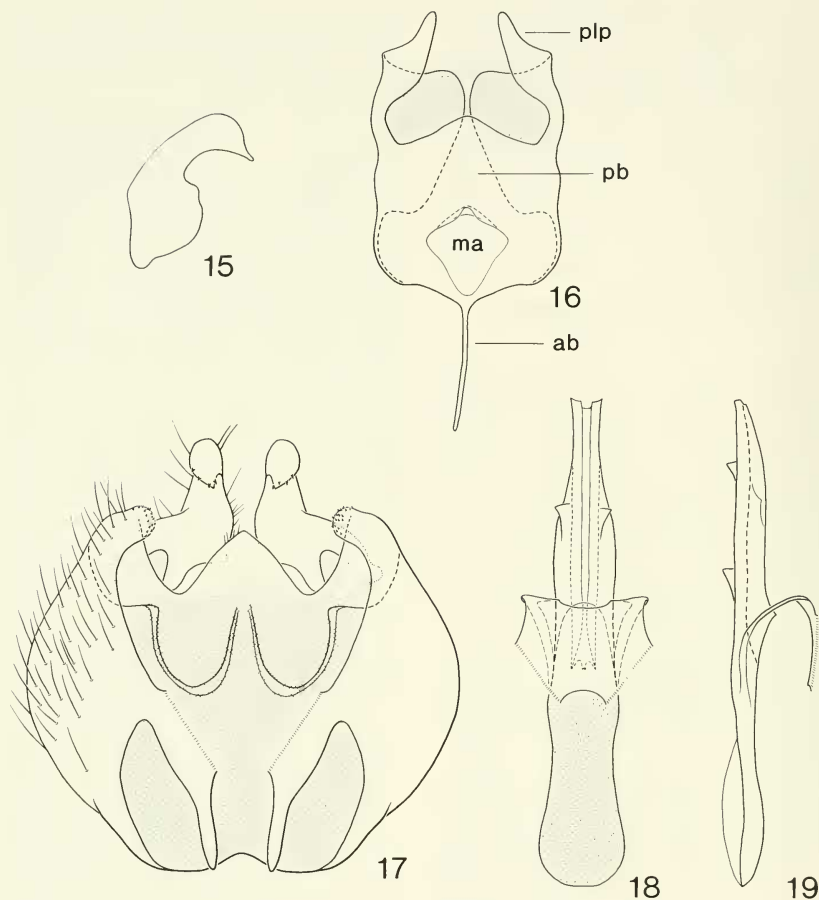
Diagnosis.—Extremely similar to *M. mimetes* and *M. praestigiator*, this species may be identified reliably only by examination of the male genitalia. It differs from *M. mimetes* in not having a long digitate process on the gonostylus. *Meristomerina aka* has the apical process of the gonostylus (Fig. 17) more strongly recurved than in *M. praestigiator*, and it possesses a few small denticles which are absent in the latter species. Also, the posterodorsal corner of the gon-

ocoxites of *M. aka* is narrower and less truncate than in other species in the genus. Females unassociated with males cannot be reliably determined.

Description.—Differs from *M. mimetes* as follows. *Male*: Head with antennae slightly shorter, 0.78 to 0.83 length of head, ratio of segments of holotype 8:8:23[4:3:2:2:2:2:2:6]. Thorax with creamy white spot of anepisternum with anterior extension along notopleural suture slightly narrower; coppery appressed pilosity of mesonotum less conspicuous; knob of halter with darkened areas more intense. Abdomen with male genitalia relatively larger than in *M. mimetes*, gonocoxites (Fig. 17) rounded, posterodorsal margin truncate but internal angle more produced and rounded, with denticles present over slightly larger area; posterior margin of hypandrium more strongly produced, sharply rounded but not emarginate medially; gonostyli (Figs. 15, 17) only slightly concave dorsally but narrower, with posterior region produced and recurved dorsally, the apex fairly sharp with a few denticles; aedeagal complex (Figs. 18, 19) quite similar to that of *M. mimetes* and *M. praestigiator*. Length 5.9 to 7.0 mm.

*Female*: Extremely similar to female of *M. mimetes*. Differs from male as follows. Head: with frons 0.40 width of head, structure and coloration virtually identical to female of *M. mimetes*; antennae 0.79 length of head, ratio of segments in allotype 8:8:29[4:3:3:3:3:3:3:7]. Thorax with mesonotal pilosity wholly whitish; haltere entirely pale. Abdomen with pale pilosity more conspicuous along tergal sutures; genital furca (Fig. 16) elongate; posterior bridge wide, rounded posteriorly; a long, very slender anterior extension present on anterior bridge; median

←  
Figs. 11–14. Male genitalia of *Meristomerina mimetes* James. 11, Male genital capsule, dorsal view. 12, Male aedeagal complex, right lateral view. 13, Male aedeagal complex, dorsal view. 14, Male epandrium and post-genital segments, dorsal view. Abbreviations: *as*, attachment structure of aedeagal complex. *c*, cercus. *ep*, epandrium. *gc*, gonocoxites. *gs*, gonostylus. *hyp*, hypandrium. *ic*, internal corner of posterodorsal portion of gonocoxites.



Figs. 15–19. Male (drawn from holotype) and female (drawn from allotype) genitalia of *Meristomerizingina aka*, new species. 15, Right gonostylus, posterolateral view. 16, Female genital furca, ventral view. 17, Male genital capsule, dorsal view. 18, Male aedeagal complex, dorsal view. 19, Male aedeagal complex, right lateral view. Abbreviations: *ab*, anterior bridge of furca, with anterior process. *ma*, median aperture. *pb*, posterior bridge. *plp*, posterolateral process.

aperture moderately small, diamond shaped with rounded corners; posterolateral processes moderate in size, slender, apices slightly convergent; ninth tergite well sclerotized but incomplete medially. Cerci as in *M. mimetes*. Length 6.5 mm.

Distribution.—Known only from Zaïre (Fig. 10).

Material examined.—ZAIRE (all as “Congo Belge”): 4 ♂ (holotype, 3 paratypes), P[arc] N[ational de la] G[aramba], Aka/2, 22 May 1952, H. De Saeger 3514 (2 at

IRNSB, 2 at MRAC); 1 ♀ (allotype), same data but 19 May 1952, H. De Saeger 3476 (MRAC); 1 ♂, same data but Aka, 14 May 1952, H. De Saeger 3450 (IRNSB); 1 ♂, P.N.G., Dedeqwa, 21 May 1952, H. De Saeger 3499 (IRNSB); 2 ♂, P.N.G., Garamba/2 (source), 6 June 1952, H. De Saeger 3583 (MRAC); 1 ♂, P.N.G., PFSK. 22/8, 10 June 1952, H. De Saeger 3608 (IRNSB); 1 ♂, Uelé, Buta, 450 m, 11 June 1935, G. F. de Witte 1359 (MRAC); 1 ♂, 1 ♀, Uelé, Monga (riv. Bili), 450 m, 18 April to 8 May 1935, G. F. de Witte 1344 (MRAC).

**Etymology.**—The specific name, a noun in apposition, refers to the type locality.

**Remarks.**—Other than size, little variation has been detected in this species. The size of the median aperture of the genital furca varies in the two females associated with males. This species is extremely similar to both *M. mimetes* and *M. praestigiator*, and can be reliably identified only by the structure of the male genitalia. All of the specimens from Parc National de la Garamba were identified previously as *M. mimetes* by Lindner and published as such (1965).

The male genitalia of *M. aka* are quite similar in general form to those of *M. praestigiator*. These two species are the only ones with the posterior margin of the hypandrium not medially emarginate. The general form of the gonostyli in the two species is similar in being only slightly concave dorsally, and in having the apical portion produced and somewhat recurved dorsally, the apex of the process being acutely pointed in posterolateral view.

### *Meristomerina cholo* Woodley,

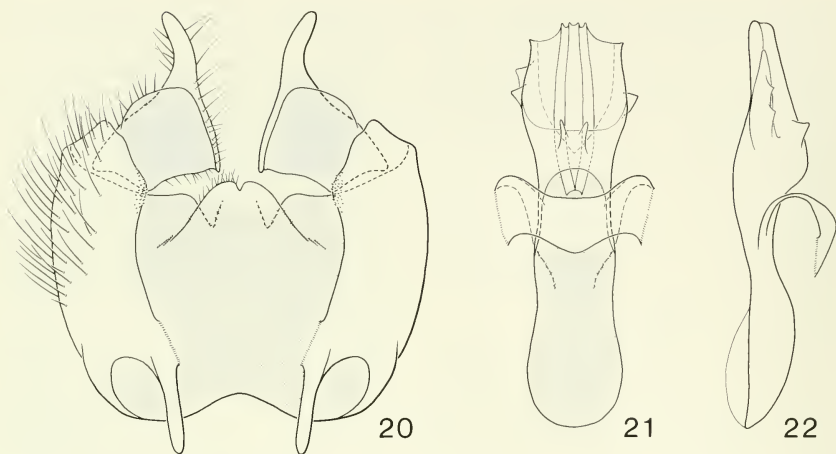
#### NEW SPECIES

**Type material.**—The holotype male is in the British Museum (Natural History). It is labeled: "Nyasaland. Cholo. R. C. Wood./867 19.12.16/HOLOTYPE ♂ Meristomerina cholo N. E. Woodley 1986." The type is in good condition, but is missing both antennae and the right hind leg beyond the trochanter. The abdomen beyond the

fifth segment is preserved in a microvial with glycerin on the specimen pin.

**Diagnosis.**—This species is one of two in which the white spot of the anepisternum does not extend anteriorly along the notopleural suture, the other being *M. kontagora*. *Meristomerina cholo* may be separated from *M. kontagora* by its pale second palpal segment and presence of a digitate process on the male gonostylus (Fig. 20). It is the only species in the genus with an entirely pale second tarsomere on the middle and hind legs.

**Description.**—Differs from *M. mimetes* as follows. **Male:** Head with creamy white coloration narrowly surrounding antennal bases, and a very narrow creamy band along lateral margin of occiput behind middle of eye; antennae missing. Thorax with creamy white spot of anepisternum confined to posterodorsal corner, not extending beyond posterior half of notopleural suture; anepimeron and dorsal margin of katepisternum just below it brownish-orange; legs with overall lighter appearance: distal halves of all femora and entire front and middle tibiae brownish-orange; hind tibiae brownish with more distinct pale median annulus; and entire front tarsi and distal three tarsomeres of middle and hind legs dark brownish. Abdomen slightly more brownish in coloration; male genitalia with gonocoxites (Fig. 20) more quadrate in general shape, posterodorsal region not as strongly truncate, the internal corner with finer denticles; posterior margin of hypandrium similar in shape but medial notch more nearly v-shaped and slightly smaller; gonostyli very similar, but anteromedial corner not as acute, and digitate process shorter, only about as long as basal part of gonostylus; aedeagal complex (Figs. 21, 22) shorter and broader, nearly straight in profile, with lateral margins developed outwardly and only thinly connected to the three medial lobes, appearing almost as a pair of accessory lobes, and bearing several irregular teeth. Length 6.8 mm.



Figs. 20–22. Male genitalia (drawn from holotype) of *Meristomerina cholo*, new species. 20, Genital capsule, dorsal view. 21, Aedeagal complex, dorsal view. 22, Aedeagal complex, right lateral view.

*Female:* Unknown.

*Distribution.*—Known only from the type locality in southern Malawi (Fig. 10).

*Material examined.*—MALAWI (as Nyasaland): 1 ♂ (holotype), Cholo, 19 December 1916, R. C. Wood (BMNH).

*Etymology.*—The species name, a noun in apposition, refers to the type locality.

*Remarks.*—This species has a slightly paler visage than most others in the genus, the darker regions of the legs being brownish-orange rather than blackish. In this regard it resembles *M. combinata*. The male genitalia are most similar to those of *M. mimetes*, as discussed under that species. However, the aedeagal complex of *M. cholo* is much shorter and proportionately broader than in any other known species in the genus.

*Meristomerina combinata* (Lindner),  
NEW COMBINATION

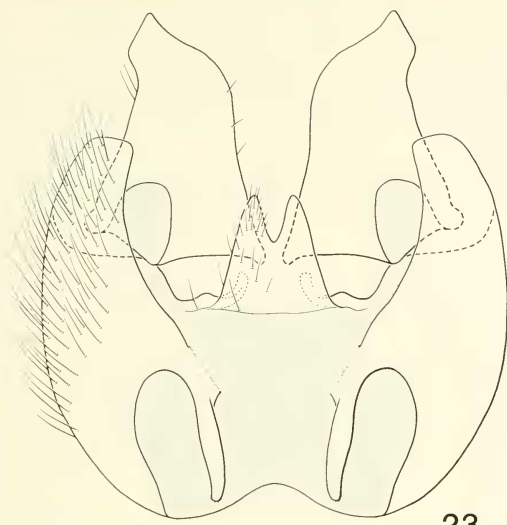
*Agnathomyia combinata* Lindner, 1958:  
124.

*Type material.*—The male holotype, in the Natal Museum, Pietermaritzburg, South Africa, is labeled: “Trelawney. S.R. 10:XII:

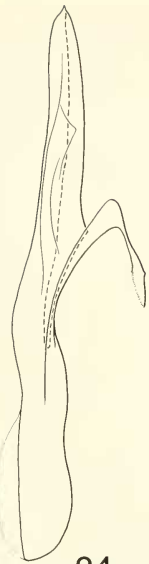
53 N. J. Myers./*Agnathomyia combinata* Lind Lindner det./Typus Lindner 1957/*Meristomerina combinata* (Lindner) det. Woodley 1984.” The specimen is in good condition, although the head is slightly detached. The terminalia are preserved in a microvial with glycerin attached to the pin of the specimen.

*Diagnosis.*—*Meristomerina combinata* may be distinguished from the other three species that have the anepisternal spot extending to the anterior spiracle by its paler legs, the darkest color on femora being brownish-orange rather than blackish. It is unique in the genus in having the male gonostyli large, more or less triangular in outline, and strongly explanate in dorsal view (Fig. 23).

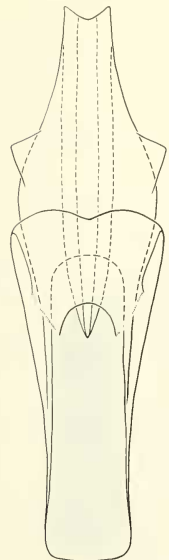
*Description.*—Differs from *M. mimetes* as follows. *Male:* Head (Fig. 9) with slight brownish tinge; antennae shorter, 0.60 length of head, ratio of segments in holotype 10:7:26[5:3:3:2:3:3:2:5], flagellum somewhat more compact; palpi with second segment distinctly darker yellow on apical half. Thorax slightly more brownish in general coloration, creamy white spot of anepister-



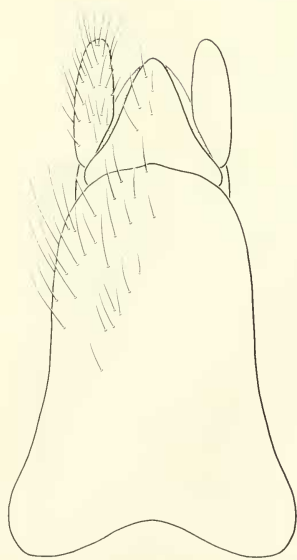
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24



25



26

Figs. 23–26. Male genitalia (drawn from holotype) of *Meristomerina combinata* (Lindner). 23, Genital capsule, dorsal view. 24, Aedeagal complex, right lateral view. 25, Aedeagal complex, dorsal view. 26, Epandrium and post-genital segments, dorsal view.

num not extending quite as far ventrally along anterior border of anepimeron; scutellar spines slightly shorter and thicker; mesonotal pilosity a little more bronzy and less conspicuous; legs in general paler in color, only front tarsi, distal halves of second tarsomeres and tarsomeres three to five of middle and hind legs brownish, otherwise coxae and bases of femora pale yellowish, remainder of legs brownish-orange, with all tibiae grading to brownish distally; wings with very slightly paler infuscation. Abdomen slightly more brownish; male genitalia with gonocoxites (Fig. 23) with posterodorsal region narrower, the internal corner without denticles; posterior margin of hypandrium more strongly produced, medial notch deeper and v-shaped, thus the process more sharply bilobed; gonostyli much different, large and explanate, shallowly concave dorsally, more or less triangular in outline in dorsal view, without distinct processes; aedeagal complex (Figs. 24, 25) more robust posteriorly, with a pair of large, lateral tooth-like projections that are nearly symmetrical. Length 8.0 mm.

*Female:* Unknown.

*Distribution.*—Known only from Zimbabwe (Fig. 10).

*Material examined.*—ZIMBABWE (as Southern Rhodesia): 1 ♂ (holotype), Trelawney, 10 December 1953, N. J. Myers (NM).

*Remarks.*—Lindner (1958) considered *Agnathomyia* to be characterized by antennal structure with "einem Endgriffel und einer feinen apikalen Borste," this apparently being the main difference between his genus and *Meristomerina*. Examination of the type failed to confirm his description of this feature. The last flagellomere is simple with a few short apical hairs. Lindner's (1958: 123, Fig. 3) figure is crude and does not adequately show details of the antennae. Thus in Lindner's (1966) later key, this species should not trace through paragraph 14, but through its alternate, paragraph 19.

The slightly paler coloration of this species differs from most members of the genus but

is similar to that found in *M. cholo*. The large, explanate male gonostyli are unique in the genus, while other features of the male genitalia are quite similar to those of congeners.

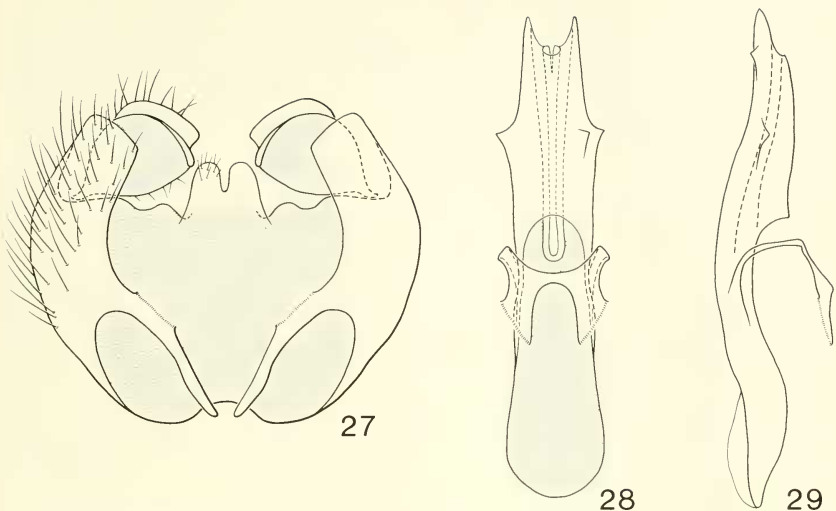
***Meristomerina kontagora* Woodley,  
NEW SPECIES**

*Type material.*—The male holotype is in the British Museum (Natural History) and bears the labels: "NIGERIA: N.W. State. Kontagora River. 3 mls. from Niger. 13.viii.1970. P.H. Ward. B.M. 1970-604./*Meristomerina mimetes* James det. S. J. Chambers 1973/HOLOTYP ♂ *Meristomerina kontagora* N. E. Woodley 1986." The specimen is in excellent condition. The abdomen beyond the fifth segment is preserved in glycerin in a microvial on the specimen pin. An allotype and one paratype are designated, with data presented in the material examined section.

*Diagnosis.*—*Meristomerina kontagora* is unique in the genus in having a dark second palpal segment. This species and *M. cholo* both have the pale anepisternal spot not extending forward to the anterior spiracle, but *M. kontagora* is darker with conspicuously bicolored legs. It is the smallest species in the genus.

*Description.*—Differs from *M. mimetes* as follows. *Male:* Head with antennae 0.87 length of head, ratio of segments of holotype 10:8:30[5:4:3:3:3:3:6], flagellum slightly more compact, first segment brownish, second yellowish-brown, flagellum with first flagellomere brownish, others brownish-black; palpi with second segment brownish, conspicuously darker than first; proboscis yellowish. Thorax with postalar calli dark brownish; anepisternum with creamy white spot confined to posterodorsal corner, not extending anteriorly along notopleural suture; prosternum brownish; mesonotum with coppery hairs less noticeable; legs yellowish-white with bases of hind coxae brownish, apical halves of all femora, all tibiae, front tarsi, and apical halves of sec-





Figs. 27–29. Male genitalia (drawn from holotype) of *Meristomerina kontagora*, new species. 27, Genital capsule, dorsal view. 28, Aedeagal complex, dorsal view. 29, Aedeagal complex, right lateral view.

ond tarsomeres and tarsomeres three to five of middle and hind legs brownish black; halter with knob brownish black; wing with infuscation grayish, a little more extensively hyaline basally, extreme apex whitish hyaline. Abdomen black; dorsal pilosity mostly brownish-black; male genitalia with gonocoxites (Fig. 27) rounded, internal corner of posterodorsal region without denticulate margins; process of posteromedial margin of hypandrium more quadrate, the medial notch slightly more v-shaped; gonostyli strongly concave dorsally but without digitate process, only vaguely bilobed along posterointernal margin; aedeagal complex (Figs. 28, 29) with posterior portion broader, more sharply bilobed apically, and with the tooth-like projections larger; attachment structure reduced in size and more narrowly connected to gonocoxal apodemes. Length 5.3 mm.

*Female*: Similar to male except as follows. Head with frons 0.37–0.38 width of head, parallel-sided above transverse sul-

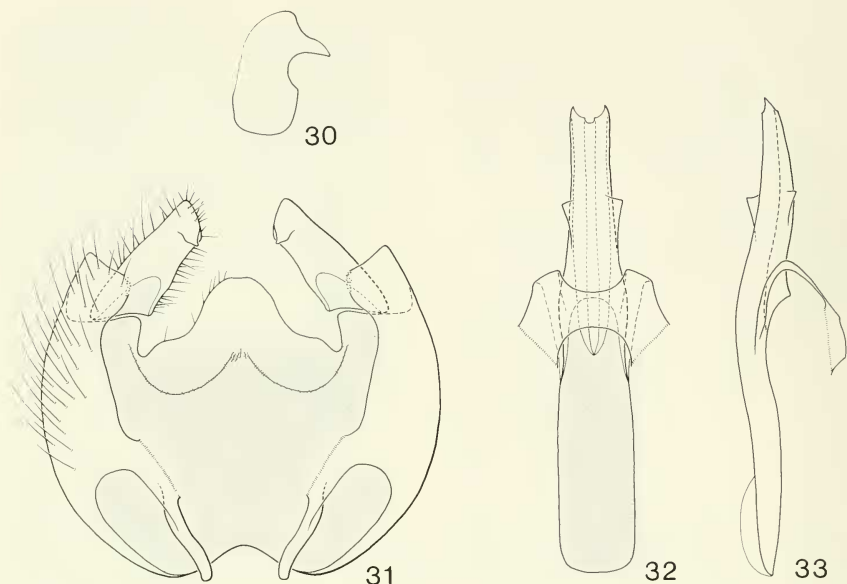
cus, very similar to *M. mimetes* in structure, except that anterior portion of medial carina is not developed and this region is more impressed; antennae 0.77–0.85 length of head, ratio of segments in allotype 7:7:26[4:3:3:3:3:2:5]. Thorax with mesonotal pilosity entirely pale; halter entirely pale; tergal sutures mostly surrounded by pale pilosity; female genitalia not examined. Length 6.0–6.3 mm.

*Distribution*.—Known only from Nigeria (Fig. 10).

*Material examined*.—NIGERIA: 1 ♂ (holotype), N. W. State, Kontagora River 3 miles from Niger, 13 August 1970, P. H. Ward (BMNH); 1 ♀ (allotype), Igbo Ora, 18 August 1964, B.R.L., at light (BMNH); 1 ♀, Ile-Ife, 2 August 1969, J. T. Medler (CNC).

*Etymology*.—The species name, a noun in apposition, refers to the type locality.

*Remarks*.—This species, the smallest in the genus, is uniform in appearance as far as the few known specimens indicate. The general structure of the male gonostyli is the



Figs. 30–33. Male genitalia (drawn from holotype) of *Meristomerina praestigiator*, new species. 20, Right gonostylus, posterolateral view. 31, Genital capsule, dorsal view. 32, Aedeagal complex, dorsal view. 33, Aedeagal complex, right lateral view.

same as in *M. mimetes* and *M. cholo*, but in *M. kontagora* there is no digitate process.

***Meristomerina praestigiator* Woodley,  
NEW SPECIES**

Type material.—The holotype male is in the British Museum (Natural History) and is labeled: "Para-type/van Someren BWAMBA 7-8, 1946/Pres by Com Inst Ent BM 1953-357/Meristomer-*ingina* mimetes ♂ James PARATYPE/HOLOTYPE ♂ *Meristomerina praestigiator* N. E. Woodley 1986." The specimen is in excellent condition although missing the right antennal flagellum. One paratype is designated with data presented in the material examined section.

Diagnosis.—Extremely similar to *M. aka* and *M. mimetes*, *Meristomerina praestigiator* may be identified reliably only by

the male genitalia. It lacks the digitate process of the gonostylus and median notch of the posterior margin of the hypandrium found in *M. mimetes* (Fig. 30). The apical portion of the gonostylus is not as sharply produced and recurved as in *M. aka*, and lacks apical denticles.

Description.—Differs from *M. mimetes* as follows. *Male*: Head with antennae slightly shorter, 0.80 length of head, 11:8:30[4:3:3:3:2:3:3:9], second segment and base of flagellum yellowish-brown. Thorax with legs essentially as in *M. mimetes*, but without trace of pale annulus on hind tibiae; knob of halter more extensively brownish. Abdomen with male genitalia with gonocoxites (Fig. 31) rounded, posterior margin of hypandrium more strongly produced, but evenly rounded, without medial notch; gonostyli (Figs. 30, 31) rather small, simple,

with a sharp process directed dorsally near apex, without denticles; aedeagal complex (Figs. 32, 33) with slightly larger tooth-like projections. Length 7.4 mm.

*Female:* Unknown.

*Distribution.*—Known only from south-western Uganda and eastern Zaïre (Fig. 10).

*Material examined.*—UGANDA: 1 ♂ (holotype), Bwamba, July–August 1946, van Someren (BMNH). ZAIRE: 1 ♂, Parc National Albert, Secteur Nord, riv. Ngokoi, affl. Talya, 1100 m, P. Vanschuytbroeck VS 37 (MRAC).

*Etymology.*—The species name, a noun in apposition meaning “imposter” or “deceiver,” refers to the extreme similarity of *M. praestigiator* to *M. mimetes*, causing its inclusion in the type series of the latter.

*Remarks.*—This species is most similar to *M. aka*, and the features in common of the male genitalia are discussed under that species. Females are unknown, but are probably nearly indistinguishable from those of *M. mimetes* and *M. aka*.

#### ACKNOWLEDGMENTS

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#### LITERATURE CITED

- James, M. T. 1952. The pachygastrine tribe Meristomerini, with descriptions of a new genus and species (Diptera, Stratiomyidae). *Ann. Entomol. Soc. Am.* 45: 38–43.
- . 1980. 20. Family Stratiomyidae, pp. 253–274. *In* R. W. Crosskey (ed.), *Catalogue of the Diptera of the Afrotropical Region*. British Museum (Natural History), London, 1437 pp.
- Kertész, K. 1914. Vorarbeiten zu einer Monographie der Notacanthen. XXIII–XXXV. *Ann. Hist.-Nat. Mus. Natl. Hung.* 12: 449–557.
- Lindner, E. 1938. Stratiomyiden aus dem Kongo-Gebiet. (Diptera). *Bull. Mus. Roy. Hist. Nat. Belg.* 14: 1–35.
- . 1955. Congo-Stratiomyiidae (Dipt.). *Rev. Zool. Bot. Afr.* 52: 241–245.
- . 1958. Äthiopische stratiomyiden (Diptera). *IV. J. Entomol. Soc. South. Afr.* 21: 121–128.
- . 1965. Stratiomyiidae (Diptera Brachycera). *Explor. Parc. Natl. Garamba Miss. H. de Saeger* 46: 45–65.
- . 1966. Stratiomyiden aus dem Kongo im Musée Royal de l'Afrique centrale in Tervuren, mit einer Bestimmungstabelle der Unterfamilie der afrikanischen Pachygasterinae. *Rev. Zool. Bot. Afr.* 73: 351–384.
- . 1970. Westafrikanische Stratiomyiden aus dem Muséum national d'Histoire naturelle de Paris. *Bull. Inst. Fr. Afr. Noire* 32: 817–828.
- Nagatomi, A. and K. Iwata. 1978. Female terminalia of lower Brachycera-II. *Beitr. Entomol.* 28: 263–293.
- Nagatomi, A. and A. Tanaka. 1971. The Solvidae of Japan. *Mushi* 45: 101–146.
- Séguy, E. 1953. La réserve naturelle intégrale du Mt. Nimba, Fasc. 1. X.—Diptères. *Mém. Inst. Fr. Afr. Noire* 19: 151–164. (1952).